

REMARKS

Claims 1-24 are pending in this patent application. Claims 1 and 12 have been amended.

Request for Continued Examination

This amendment accompanies a Request for Continued Examination

Claim Objections

Claims 1 and 12 have been amended to address the informalities noted by the Examiner. It is respectfully requested that the objections be withdrawn.

35 U.S.C. § 103(a) Rejections

I. Claims 1-6, 10-15, 17-19, 23 and 24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Roddy (US Pub. Patent App. No. 2003/0160881) in view of Hamilton (US Patent No. 6,330,029).

Claim 1

Independent claim 1 as amended is reproduced below for convenience:

1. (Currently Amended) An image sensing device comprising:
a plurality of photosensors arranged in at least one array, such that
each of the photosensors converts incident light into an output signal, the
photosensors and their respective output signals being divided into a
plurality of color channels;
a filter associated with each of the photosensors, the filters
selecting light within predetermined spectral bands for conversion by the
photosensors into the output signals, one color channel indicative of one
color and having an associated spectral bandwidth comprising at least two
color sub-channels and the filters associated with the photosensors of the
at least two of the color sub-channels having overlapping spectral bands
within the spectral bandwidth of the one color channel wherein one of the
overlapping spectral bands is narrower in bandwidth than another of the
overlapping spectral bands, and wherein signals from one of the at least
two color sub channels can be scaled or extended by interpolation based
on signals from the other of the at least two color sub channels of the same
color channel.

Claim 1 is patentable over Roddy and Hamilton, when taken alone or in combination. Neither of these references discloses, teaches or suggests "one color channel indicative of one color and having an associated spectral bandwidth comprising at least two color sub-channels and the filters associated with the photosensors of the at

least two of the color sub-channels having overlapping spectral bands within the spectral bandwidth of the one color channel wherein one of the overlapping spectral bands is narrower in bandwidth than another of the overlapping spectral bands.”

Roddy was relied upon in the Office Action of September 12, 2007 for teaching all the elements of previous claim 1 other than the now deleted section regarding scaling and interpolation. There are no sub-channels within the same color channel disclosed in Roddy. Its Figure 6 and 8a through 8d illustrate each color with the same letter. In other words, there is no need for different indicates of green photosensors with different spectral bands such as G₁ and G₂ as per applicants' Figure 1. For example in paragraph [0043] of Roddy, the photosensor for C in the color filter array has its own blue-green filter for a spectral band from about 400 to 600 nm, a range associated with the color cyan. “For example, a suitable cyan filter may have a passband of 470 to 530 nm.” For each of the colors, whether it is red, green, blue or cyan, a filter at each photosensor picks out the spectral bandwidth for that color. In the case of Cyan, that is a specific range between 400 to 600 nm. However, there is no one color channel indicative of one color which comprises at least two sub-channels and filters associated with the photosensors of the at least two sub-channels having spectral bands within the spectral bandwidth of the one color channel. For example, there is no discussion of photosensors associated with Cyan picking out different spectral bands (e.g. between 450 and 500 nm or between 490 and 530nm) within the Cyan spectral bandwidth range of 400 to 600nm. Therefore, claim 1 is patentable over Roddy in view of Hamilton.

Claims 2-6 and 10-11 depend from claim 1 and the arguments with respect to claim 1 are applicable for illustrating that dependent claims 2-6 and 10-11 are patentable over Roddy in view of Hamilton as well.

Claim 12

The arguments presented for claim 1 are applicable for illustrating that claim 12 is patentable over Roddy in view of Hamilton as well. For example, the combination of Roddy in view of Hamilton fails to disclose, teach or suggest:

combining the outputs of the photosensors to generate the electronic representation of the image, wherein one color channel indicative of one color and having an associated spectral bandwidth is divided into at least two color sub-channels having filters associated with the photosensors of

these at least two color sub-channels, the filters having overlapping spectral bands within the spectral bandwidth of the one color channel
wherein one of the overlapping spectral bands is narrower in bandwidth than another of the overlapping spectral bands within the spectral bandwidth of the one color channel, and wherein signals from one of the at least two color sub-channels can be scaled or extended by interpolation based on signals from the other of the at least two color sub-channels of the same color channel.

Therefore, claim 12 is patentable over Roddy in view of Hamilton.

Claims 13-15, 17-19, 23 and 24 depend from claim 12 and the arguments with respect to claim 1 and 12 are applicable for illustrating that dependent claims 13-15, 17-19, 23 and 24 are patentable over Roddy in view of Hamilton as well.

II. Claims 7 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Roddy (US Pub. Patent App. No. 2003/0160881) in view of Hamilton (US Patent No. 6,330,029) as applied to claims 1 and 12 above, and further in view of Yang (US Patent no. 5,923,380).

Claims 7 and 20 depend respectively from claims 1 and 12 and the arguments with respect to claims 1 and 12 are applicable for illustrating that dependent claims 7 and 20 are patentable over Roddy in view of Hamilton and further in view of Yang.

III. Claims 9 and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Roddy (US Pub. Patent App. No. 2003/0160881) in view of Hamilton (US Patent No. 6,330,029) as applied to claims 6 and 19 above, and further in view of Gann (US Patent no. 7,154,545).

Claims 9 and 22 depend respectively from claims 1 and 12 and the arguments with respect to claims 1 and 12 are applicable for illustrating that dependent claims 9 and 22 are patentable over Roddy in view of Hamilton and further in view of Gann.

IV. Claims 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roddy (US Pub. Patent App. No. 2003/0160881) in view of Hamilton (US Patent No. 6,330,029) as applied to claim 15 above, and further in view of Shizukuishi (US Pub. Patent App. No. 2004/0100570).

Claim 16 depends from claim 12 and the arguments with respect to claims 1 and 12 are applicable for illustrating that dependent claims 16 is patentable over Roddy in view of Hamilton and further in view of Shizukuishi.

Conclusion

In light of the arguments presented above, pending claims 1-24 are in condition for allowance, and Applicant respectfully requests a prompt notice of allowance.

Date: *Feb. 12, 2008* Respectfully Submitted on Behalf of Applicants
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